



Nutri-Facts Dietary Nutrients

Introduction

Vitamins and minerals are substances your body needs in small but steady amounts for normal growth, function and health. Together, vitamins and minerals are called micronutrients. Your body can't make most micronutrients, so you must get them from the foods you eat or, in some cases, from supplements. Food preparation, medications, caffeine, tobacco, alcohol, and stress can affect the amount of nutrient available to the body. For example, drinking coffee or tea with meals can decrease iron absorption and taking antibiotics can increase your Vitamin B needs.

What exactly are Vitamins for?

Vitamins are needed for a variety of biologic processes, among them growth, digestion, mental alertness and resistance to infection. They also enable your body to use carbohydrates, fats and proteins, and they act as catalysts — initiating or speeding up chemical reactions. Though vitamins are involved in converting food into energy, they supply no calories.

Vitamins can be either water-soluble or fat-soluble.

Water-soluble vitamins. Vitamin C, biotin and the seven B vitamins — thiamin (B-1), riboflavin (B-2), niacin (B-3), pantothenic acid (B-5), pyridoxine (B-6), folic acid (B-9) and cobalamin (B-12) — dissolve in water (water-soluble) and are not stored in your body in any significant amounts. Surplus water-soluble vitamins are simply excreted in your urine.

Fat-soluble vitamins. Any extra vitamin A, D, E or K not used by your body right after ingestion is stored in your body fat and liver. Excess fat-soluble vitamins can accumulate in your body and become toxic. You're especially sensitive to excess amounts of vitamins A and D. Because vitamins E and K affect blood clotting, talk with your doctor before taking a supplement that contains either of these vitamins if you're taking a blood thinner, such as warfarin (Coumadin).

What exactly are Minerals for?

Minerals are the main components in your teeth and bones, and they serve as building blocks for other cells and enzymes. Minerals also help regulate the balance of fluids in your body and control the movement of nerve impulses. Some minerals also help deliver oxygen to cells and help carry away carbon dioxide.

Minerals have two categories:

Major minerals Calcium, phosphorus, magnesium, sodium, potassium, sulfur and chloride are considered major minerals because adults need them in larger amounts — more than 250 milligrams (mg) a day.

Trace minerals Chromium, copper, fluoride, iodine, iron, manganese, molybdenum, selenium and zinc are considered trace minerals because your body needs them in smaller amounts.

Is there any supplement that is recommended for maintaining health?

A multi-vitamin with minerals may be beneficial in ensuring that important nutrients are being taken daily. As an example, a multi-vitamin may contain folic acid, an important B vitamin that prevents birth defects and heart disease. When selecting a multi-vitamin, select one with no more than 100% of the recommended daily intake for vitamins and minerals. This ensures safety and avoids spending extra money on supplements that may not be worth the cost.

The Daily Recommended Values for Nutrients are:

Vitamin A 5,000 IU	Calcium 1,000 mg
Vitamin C 60 mg	Phosphorus 1,000 mg
Vitamin D 400 IU	Magnesium 400mg
Vitamin E 30 IU	Iron 18 mg
Vitamin K 80 micrograms (mcg)	Zinc 15 mg
Vitamin B-6 2 mg	Copper 2 mg
Vitamin B-12 6 mcg	

Total Fat 65 grams (g) (based on 30% of the 2,000-calorie standard)
Saturated Fat 20 g (based on 8% to 10% of the 2,000-calorie standard)
Cholesterol 300 mg
Total Carbohydrate 300 g (about 60% of the 2,000-calorie standard)
Fiber 25 g
Protein 50 g (about 20% of the 2,000-calorie standard)

Remember, a healthy diet containing plenty of fruits, vegetables, lean meats, low fat dairy and whole grains will provide the best source of important nutrients. No one food has all the vitamins and minerals, so you need to eat a variety of healthy foods. Good nutrition should be part of an overall healthy lifestyle, that also includes regular physical activity, not smoking, and stress management.

For more information on this and other health and wellness topics, visit
Navy Knowledge Online (NKO) at <http://www.nko.navy.mil> or the
Navy Environmental Health Center (NEHC) at <http://www-nehc.med.navy.mil/hp>.